

Instructional Objectives / Learning Outcomes
DMP 775, Veterinary Clinical Pathology
Department of Diagnostic Medicine/Pathobiology
College of Veterinary Medicine, Kansas State University

Chapter 2: Basic hematologic assays

25. Contrast and compare blood, plasma, and serum.
26. Contrast and compare the anticoagulant properties of EDTA, citrate, and heparin.
27. Define a CBC and describe each component including what the units of measurement represent.
28. Explain the basic purpose or potential value of each component of a CBC.
29. Explain how or why poor sample collection or handling may lead to erroneous CBC results.
30. For impedance cell counters, recognize or list the parts of the CBC that are measured and the parts that are calculated from measured values. Describe the basic principles used in the measurements.
31. Explain what an electronic cell counter measures and why such instruments may not provide accurate results for all animal species.
32. Recognize and list the major advantages of an optical counter over an impedance counter. Describe how the advantages help us.
33. Recognize and explain how a QBC VetAutoread™ determines the following: Hct, Hgb, MCHC, WBC concentration, platelet concentration.
34. For the typical CBC results, explain how a neutrophil concentration is determined.
35. Contrast and compare the Hct that is determined by centrifugation and electronic hematologic instruments.
36. Describe the general types of abnormalities that may be found in a blood film evaluation.
37. Define reticulocyte percentage (RP), corrected reticulocyte percentage (CRP), and reticulocyte concentration (RC) and describe the diagnostic value of information obtained from them.
38. Explain when we expect to find the following.
 - a. reticulocytosis in a dog, cow, or horse
 - b. punctate or aggregate reticulocytosis in a cat
39. Explain the clinical significance if we expect reticulocytosis and it is not present.
40. Given appropriate information, calculate and interpret a corrected WBC concentration, nRBC concentration, RP, CRP, and RC.
41. Explain the clinical significance of:
 - a. Positive Coombs' test in an animal with a regenerative anemia
 - b. Positive Coombs' test in an animal with a nonregenerative anemia
 - c. Positive Coombs' test in an animal without an anemia
 - d. Negative Coombs' test in an animal with a regenerative anemia
 - e. Negative Coombs' test in an animal with a nonregenerative anemia